



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D206-642-341
Job Sheet 179345



Part No: D206-642-341

Job Qty: 1 ea

Part Name: Replacement Skidtube (Fits LH or RH)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/18/18

Job Tracking No:

Due Date: 6/29/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV F(DEO) IPP Rev: H 05.10.11 Added D3429-1 per CHG004 KJ/CP/JLM IPP Rev: I 08-09-29 revF as per dwg DD verified by: EC Est Rev: J 09-03-02 as per DSI9440 rev. a DD verified by: EC IPP rev K 10.08.03 chg ms27039-1-08 for "C" type EC ver: DD IPP Rev: L 12.11.22 now swage per ecn12-679 DD ver: JLM IPP Rev: M 14.04.25 ECN14-520 DD ver: JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	6/29/18	6/29/18	0.00	0.00	Start Up Skid tubes-1		J.Y.
110	Skid tubes	1 pcs	6/29/18	6/29/18	0.00	3.23	Skid tubes-2		DD, B.A.S. J.Y.
115	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC5		38
116	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC9		D.18.15.21
120	HandFinish	1 pcs	6/29/18	6/29/18	0.00	0.50	HandFinish1		D.18.11/11/22
125	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC7-1		60
130	Skid tubes	1 pcs	6/29/18	6/29/18	0.00	3.23	Skid tubes-2		9-89 M.G.G.
140	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC5		BE
150	Skid tubes	1 pcs	6/29/18	6/29/18	0.00	3.23	Skid tubes-2		TF DAS DU
180	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC5		38
190	HandFinish	1 pcs	6/29/18	6/29/18	0.00	0.50	HandFinish2		D.R. 18/12/16
200	Powdercoat	1 pcs	6/29/18	6/29/18	0.00	0.23	Powdercoat1		BR 18-12-7
210	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC3		68-68
220	HandFinish	1 pcs	6/29/18	6/29/18	0.00	0.50	HandFinish4		68-68
230	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC3		DEC 11 2018 68
240	QC	1 pcs	6/29/18	6/29/18	0.00	0.00	QC5		DAS 1 2018 68
250	Packaging	1 pcs	6/29/18	6/29/18	0.00	0.00	Packaging3-1		46 DEC 27 2018
255	DC	1 pcs	6/29/18	6/29/18	0.00	0.00	DC		9-89 DAS
260	QC21-FG	1 Ea	6/29/18	6/29/18	0.00	0.00	QC21		DEC 27 2018 70

Part Op 110 - 1-Deburr Fwd edge of tube 2-Remove ridge on inside of Fwd edge of tube as per Dwg D2650 A/R 5-Cut aft end to length as per dwg D2650 6-Drill pilot holes using drill Jig DT8168A (A, & B) and DT8025. 7-Drill holes for wearplates using DT 8028-5. Open to Ø 0.297". 8-Open Aft Cap Hole using #6 Drill Bit 9-Open holes for Tow Ring to Ø0.625" as per Dwg D2650, D2650-5 Drilling Detail 10-Remove inner indexing ridge on aft end of skid tubes as per Dwg D2650 11- Ream holes to finished size as per Dwg D2650, D2650-5 Drilling Detail (without cutting fluid) 12-Deburr.

130 - 1- Bond D2654-5 web in place as per QSI 015 Ensure holes line up Allow 12 Hrs. cure time before cutting

150 - 1- Insert D4720-1 Spacer. Swage to 0.313" X 0.75" DP per QSI 002. Trim and grind flush per QSI 002 2- Install nut plate as per dwg

200 - Make sure Nut Plate Thread is protected using paint screw, and mask GHW studs. START TIME: 9:10

FINISH TIME: 9:40 O.I.T. 300° M138951.

220 - 1-Install inserts & wearpads as per dwg D2922. Use a drop of Sikaflex inside insert holes before installing wearpad/wearplate. 2- Apply RTV 598 on the plugs Batch: 19-03-06

250 - Identify and pack for shipping as per PPP D206-642-341 Location: FG083

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Sus ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____		Step #: _____		(QSI042) Approval			
Description Work Order Dev						Completed By	
 Container No: S113777 Part: D206 - 642 - 341 Job No: 179345 Serial No/Batch: S113777 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: TC STC SH98 - 4 Issue 2, EASA STC SA00475SE 15/10/28, EASA STC						hand / Supervisor	
						approval Verification	
						/ QA Coordinator	
						Approval	
Root Cause		Positioned Wrong					
Environment ☐		outside Dimensions					
Design ☐		over/Under tolerance					
Doc/Data ☐		Part Incorrect					
Equip/Tooling ☐		Part Lost/Missing					
Handling/Pre ☐		Part Moved					
Material ☐		Drawing					
Internal Transport ☐		Finish					
Tribal Knowledge ☐		Misread					
LOA ☐		Turning Sequ					
Substation ☐							
Past Expiry Date ☐							
Misidentified ☐							
OTHER :							

M.4. 006987

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2620	Skidtube, 206 Skidtube	1 Ea (1 ea)	90-Start up Operation	5108902
D2647	Cap	1 Ea (1 ea)	90-Start up Operation	5038805
D2654-5	Web	1 Ea (1 ea)	130-Skidtubes	5127362
D4720-1	Spacer	19 Ea (19 ea)	150-Skidtubes	5030687
ALS4-1032-130	Rivnut	54 Ea (54 ea)	220-HandFinish	5007279
CCR264SS3-3	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	FM137622
CR3212-4-03	Cherry Rivet	2 Ea (2 ea)	220-HandFinish	FM1379860
D2646	Aft Cap	1 Ea (1 ea)	220-HandFinish	M163254-102
D2651-1	Plug	14 Ea (14 ea)	220-HandFinish	5044163
D2651-3	O-Ring	14 Ea (14 ea)	220-HandFinish	5027453
D2680-041	Nut Plate	1 Ea (1 ea)	220-HandFinish	F158428
D3537-1	Wearpad	6 Ea (6 ea)	220-HandFinish	5108684
D3537-3	Wearpad	1 Ea (1 ea)	220-HandFinish	5013552
D4956-11	Wearplate Fwd	1 Ea (1 ea)	220-HandFinish	5037779
D4956-23	Wearplate Center Fwd	1 Ea (1 ea)	220-HandFinish	5057041
D4956-35	Wearplate Aft	1 Ea (1 ea)	220-HandFinish	5057063
MS27039-1-08	Screw	2 Ea (2 ea)	220-HandFinish	5043210
MS27039-4-06	Screw	1 Ea (1 ea)	220-HandFinish	FM137951-1
MS27039C1-08	Screw	54 Ea (54 ea)	220-HandFinish	25x5036485/29x5104039
NAS1149C0332R	Washer	54 Ea (54 ea)	220-HandFinish	5180139
NAS1149D0332J	Washer	2 Ea (2 ea)	220-HandFinish	5100407-1
NAS1149D0463J	Washer	1 Ea (1 ea)	220-HandFinish	5055952

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2620	1	1	0
	D2647	1	21	0
130-Skidtubes	D2654-5	1	5	0
150-Skidtubes	D4720-1	19	312	0
220-HandFinish	ALS4-1032-130	54	13,448	0
	CCR264SS3-3	2	116	0
	CR3212-4-03	2	192	0
	D2646	1	87	0
	D2651-1	14	248	0
	D2651-3	14	625	0
	D2680-041	1	41	0
	D3537-1	6	170	0
	D3537-3	1	36	0
	D4956-11	1	20	0
	D4956-23	1	17	0
	D4956-35	1	18	0
	MS27039-1-08	2	386	0
	MS27039-4-06	1	75	0
	MS27039C1-08	54	298	0
	NAS1149C0332R	54	5,701	0
	NAS1149D0332J	2	1,770	0
	NAS1149D0463J	1	4,440	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																		
Description Work Order Deviation				Disposition																					

Root Cause <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Environment ☐</td> <td style="width:15%;">No Re-verification ☐</td> <td style="width:15%;">Pressure/Forced ☐</td> <td style="width:15%;">Temperature/Cure ☐</td> </tr> <tr> <td>Design ☐</td> <td>Operator ☐</td> <td>Bending ☐</td> <td>Set-up ☐</td> </tr> <tr> <td>Doc/Data ☐</td> <td>Offset/Setup ☐</td> <td>Centre Not Concentric ☐</td> <td>BOM/Route ☐</td> </tr> <tr> <td>Equip/Tooling ☐</td> <td>Supplier ☐</td> <td>Cracks ☐</td> <td>Broken/Damage/Defect ☐</td> </tr> <tr> <td>Handling/Pre ☐</td> <td>Training ☐</td> <td>Crimp/Kink/Ripple/Wave ☐</td> <td>Inspection Incomplete/Unqualified ☐</td> </tr> <tr> <td>Material ☐</td> <td>Use for Testing ☐</td> <td>Cuffs ☐</td> <td>Contamination ☐</td> </tr> <tr> <td>Internal Transport ☐</td> <td>Poor Information ☐</td> <td>Crushing ☐</td> <td>Countersink ☐</td> </tr> <tr> <td>Tribal Knowledge ☐</td> <td>Rushing ☐</td> <td>Heat Treat ☐</td> <td>Cut Too Short ☐</td> </tr> <tr> <td>LOA ☐</td> <td>Product Improvement ☐</td> <td>Wave/Twist in Tube ☐</td> <td>Instructions Incomplete/Unclear ☐</td> </tr> <tr> <td>Substation ☐</td> <td>Process Improvement ☐</td> <td>Marks/Chatter ☐</td> <td>Drill Holes ☐</td> </tr> <tr> <td>Past Expiry Date ☐</td> <td>Manufacturing Process ☐</td> <td colspan="2" rowspan="2" style="text-align: center; vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified ☐</td> <td>Past Due ☐</td> </tr> </table>				Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____		Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Power Loss/Surge ☐</td> <td style="width:15%;">Positioned Wrong ☐</td> </tr> <tr> <td>Folio/Program ☐</td> <td>Outside Dimensions ☐</td> </tr> <tr> <td>Grain ☐</td> <td>Over/Under tolerance ☐</td> </tr> <tr> <td>Weld ☐</td> <td>Part Incorrect ☐</td> </tr> <tr> <td>Wrong Stock Pulled ☐</td> <td>Part Lost/Missing ☐</td> </tr> <tr> <td>Out of Sequence ☐</td> <td>Part Modified ☐</td> </tr> <tr> <td>Off-set ☐</td> <td>Drawing ☐</td> </tr> <tr> <td>Mislabeled ☐</td> <td>Finish ☐</td> </tr> <tr> <td>Fit/Function ☐</td> <td>Misread ☐</td> </tr> <tr> <td>Misaligned/off center ☐</td> <td>Turning Sequence ☐</td> </tr> </table>				Power Loss/Surge ☐	Positioned Wrong ☐	Folio/Program ☐	Outside Dimensions ☐	Grain ☐	Over/Under tolerance ☐	Weld ☐	Part Incorrect ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Out of Sequence ☐	Part Modified ☐	Off-set ☐	Drawing ☐	Mislabeled ☐	Finish ☐	Fit/Function ☐	Misread ☐	Misaligned/off center ☐	Turning Sequence ☐
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QTY -1	QTY -3	QTY -5	QTY -7	PART NUMBER	DESCRIPTION
X				D2650-1	SKIDTUBE ASSEMBLY
	X			D2650-3	SKIDTUBE ASSEMBLY
		X		D2650-5	SKIDTUBE ASSEMBLY
			X	D2650-7	SKIDTUBE ASSEMBLY
1	1	1	1	D2600-1-160	EXTRUSION
1				D2654-1	WEB
	1			D2654-3	WEB
		1		D2654-5	WEB
			1	D2654-7	WEB
1	1	1	1	D2646	AFT CAP
1	1	1	1	D2647	CAP
17	18	19	23	D2649	CROSS BOLT SPACER
16	18	14	22	D2651-1	PLUG
16	18	14	22	D2651-3	O-RING
1	1	1	1	D2680-041	NUT PLATE
2	2			D3286-1	DOUBLER
2	2			D3286-3	STUD
42	44	54	60	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, ALS7-1032-130)
2	2	2	2	AN960JD10L	WASHER
2	2	2	2	CCR264SS3-3	RIVET
2	2	2	2	CR3212-4-03	RIVET
2	2	2	2	MS27039-1-08	SCREW
1	1	1	1	MS27039-4-06	SCREW
1	1	1	1	AN960JD416	WASHER
52	52			CR3212-4-04	RIVET

F

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RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 179345 MJS

1806-18

DEO ATTACHED
RELEASED
08-07-23

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: -CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
-POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
-BLACK ANTI-SKID PAINT AS INDICATED TO 0.5 ABOVE LOCATION RIDGE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A
- 8) WELD PER DART QSI 004
- 9) DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- 10) BOND WEB INTO OUTER TUBE WITH SIKAFLEX-241/-291 ADHESIVE PER DART QSI 015
- 11) INSERT D2651-1 PLUG C/W D2651-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE)
- 12) DRILL Ø0.297 FOR ALS7-1032-130 INSERTS USING TEMPLATE DT8056-3 ON -1 TUBE, DT8056-5 ON -5 TUBE, AND DT8056-7 ON -7 TUBE. INSTALL INSERTS AFTER FINISH.
- 13) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

F	DRAWING UPDATED TO CURRENT STANDARDS. SHT 6 ADDED. ALL SECTION AND DETAIL VIEWS TRANSFERRED TO SHT 6. SHT 1 IN PL PART D2649 QTY UPDATED. SHT 6 SECT C-C GRIND INSTRUCTIONS DELETED FROM NOTE 7 (SEE NCR 239).	AJS	08.08.08
E	RMOVE CBORE, CHG DRILL, ADD CHAMFER	CP	06.03.30
D	REDRAW; INCCRP. DE09136/9153/9163 MOD GROUND HANDLING ON D2650-1/-3	CP	04.05.17
C	CHANGE HOLE PATTERN AND FRONT END	DS	97.10.29
B	AS MANUFACTURED CHANGES	DS	97.06.26
A	NEW ISSUE	DS	97.03.25
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____

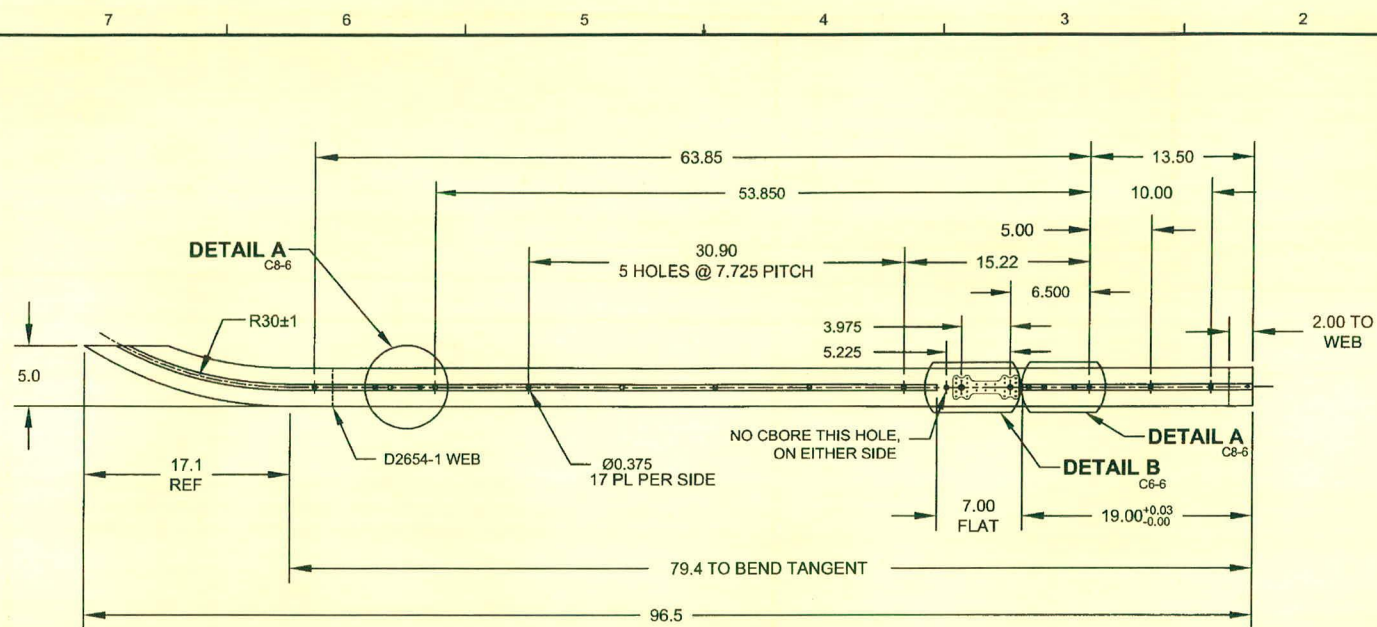


WORK ORDER NON-CONFORMANCE / UPDATE

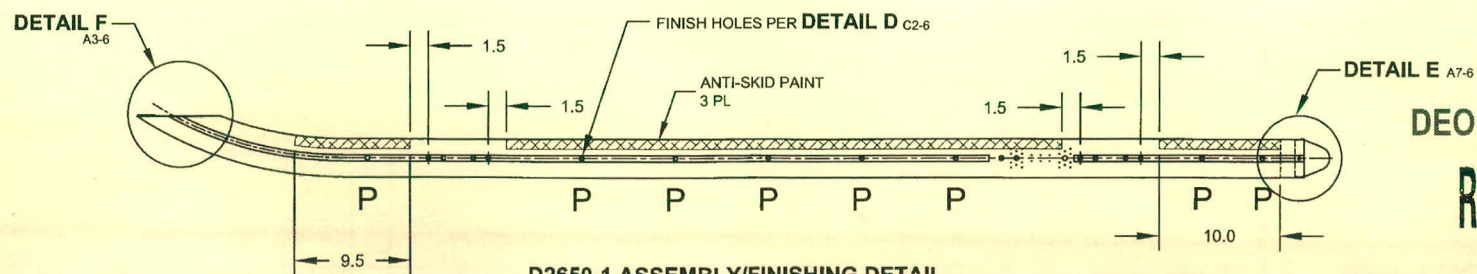
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D2650-1 BENDING/DRILLING DETAIL



D2650-1 ASSEMBLY/FINISHING DETAIL

DEO ATTACHED
RELEASED
680922/114

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 2 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____

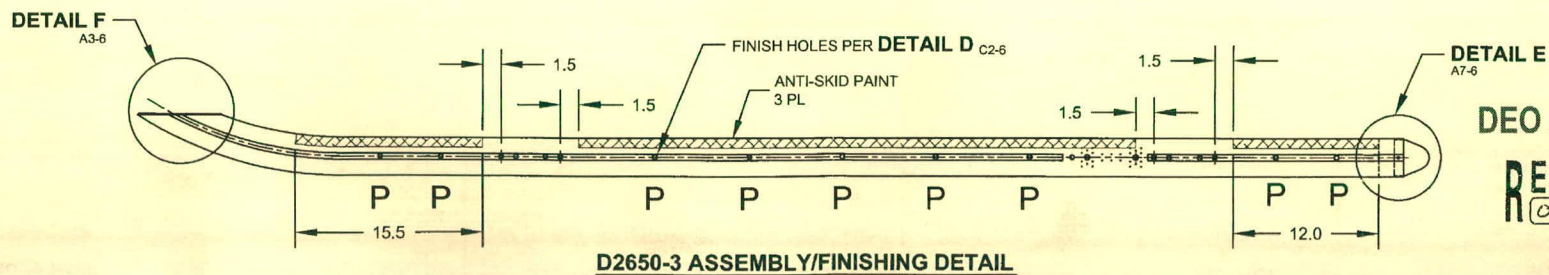
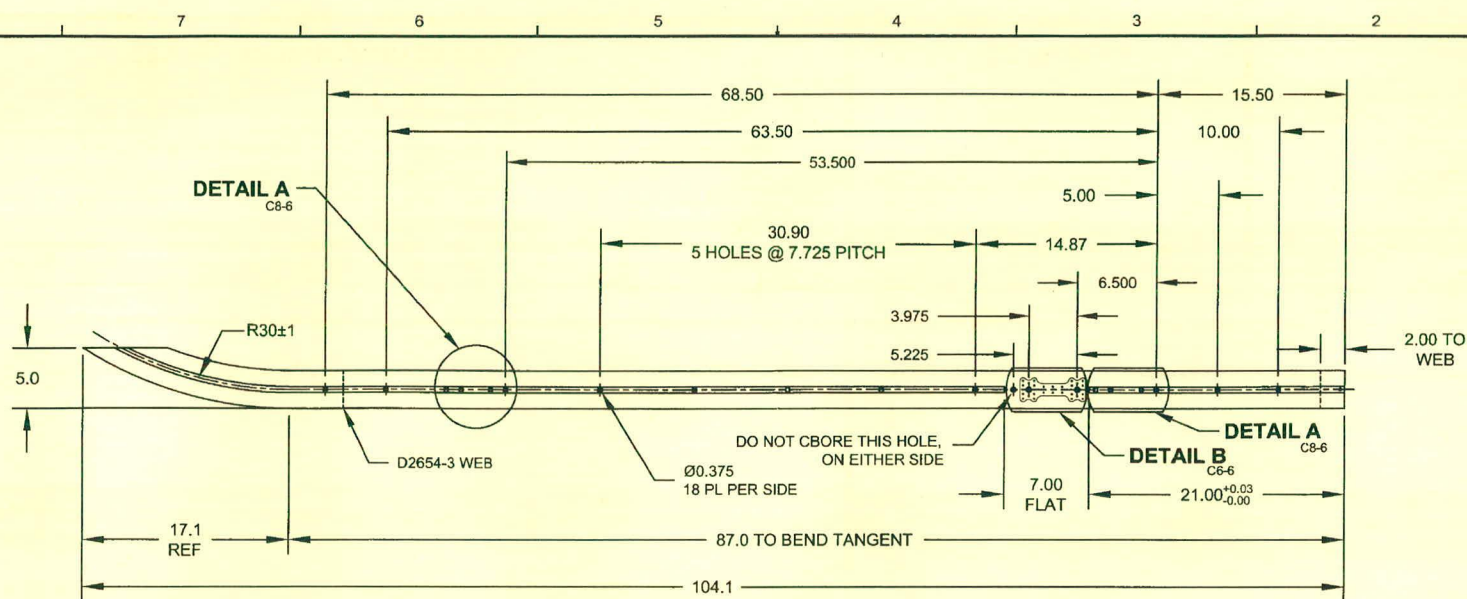


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
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				Lead hand / Supervisor Approval Verification	
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OTHER : _____					



DEO ATTACHED
RELEASED
08-07-22/118

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
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WORK ORDER NON-CONFORMANCE / UPDATE

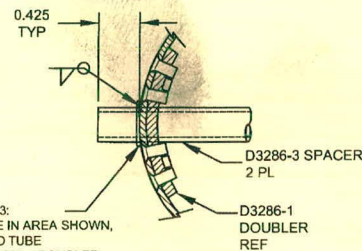
QA Closed: _____ Date: _____

Work Order update only ☐

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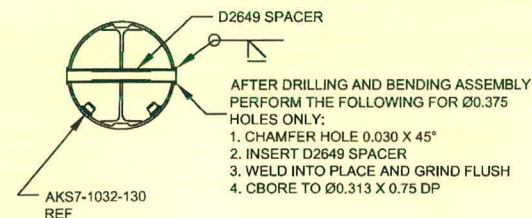
SECTION C-C C7-6 SCALE NONE



- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625 AND CHAMFER HOLE 0.030x45°
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE.

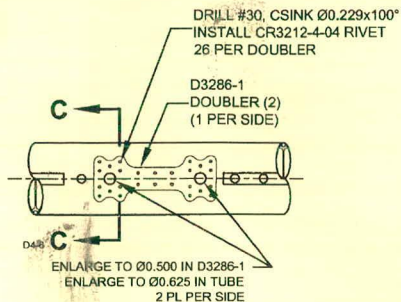
F

DETAIL D FOR Ø0.375 HOLES ONLY SCALE 3X

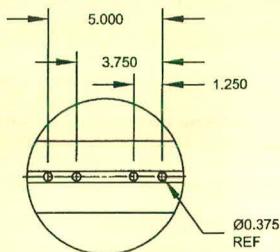


B4-2
B4-3
B4-4
B4-5

DETAIL B C3-2 SCALE 2X C3-3



DETAIL A C2-2 SCALE 2X D7-2 C2-3 D7-3 C2-4 D7-4 C2-5 D6-5

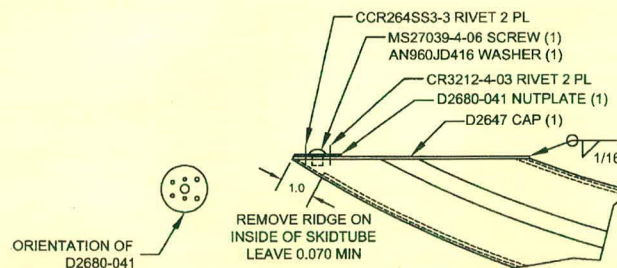


DETAIL F NOTES:

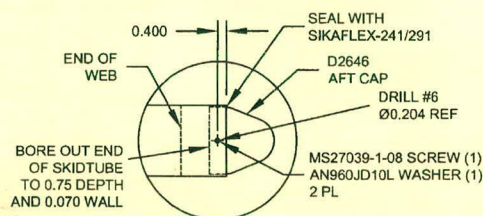
1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D2647 (TRIM AS NECESSARY)
4. WELD D2647 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D2680-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D2680-041 PRIOR TO FINISH

DETAIL F B8-2 SCALE NONE B8-3 B8-4 B8-5



DETAIL E B2-2 SCALE 2X B2-3 B1-4 B1-5



RELEASED
08-08-27-18
DEO ATTACHED

DESIGN	DS	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. F
MFG. APPR.		D2650	SHEET 6 OF 6
APPROVED		TITLE	SCALE
DE APPR.		206/407 SKIDTUBE ASSEMBLIES	NTS
DATE	08.08.08	COPYRIGHT © 1997 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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DRAWING NO. D2650	TITLE 206/407 SKIDTUBE ASSEMBLIES	REV. F	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D2650-F-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>JP</i>	CHECKED <i>A.P.</i>	MFG. APPR. <i>AA</i>	APPROVED <i>#</i>		DE APPR. <i>#</i>		
DATE 12.10.12	DATE 12.10.22	DATE 12.10.22	DATE 12.10.22		DATE 12.10.22		

PURPOSE:

CHANGE C'BORED WELDED CROSSBOLT SPACERS TO SWAGED SPACERS

CHANGE:

PARTS LIST IS AMENDED AS FOLLOWS:

IS:

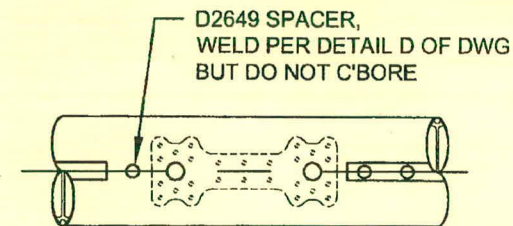
QTY	QTY	QTY	QTY	PART NUMBER	DESCRIPTION
-1	-3	-5	-7		
1	1	0	0	D2649	CROSS BOLT SPACER
16	17	19	23	D4720-1	SPACER

WAS:

17	18	19	23	D2649	CROSS BOLT SPACER
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ADD DETAIL G BELOW, WHICH IS THE SAME SECTION VIEW AS DETAIL D OF DWG.

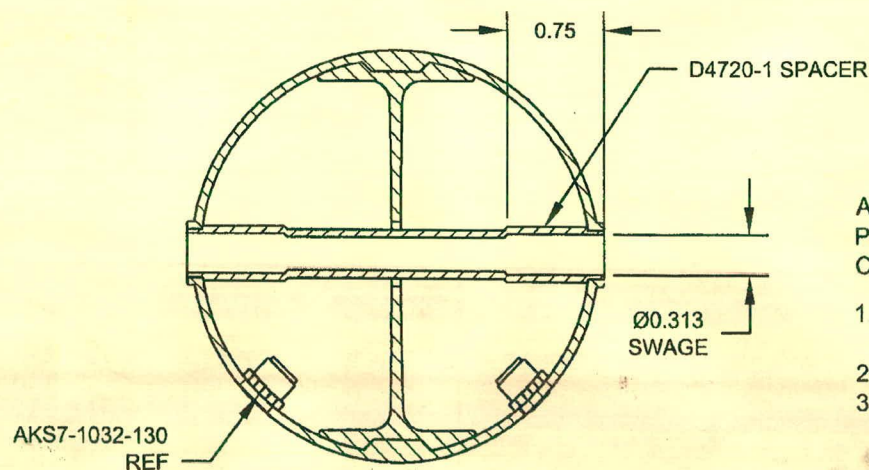
C'BORED HOLES ARE **NOW SWAGED** PER DETAIL G BELOW. FOR THE $\emptyset 0.375$ HOLE THAT IS NOT C'BORED, WELD PER DETAIL D OF DWG (SEE AMENDED DETAIL B FOR REFERENCE).



DETAIL B

AMENDMENT TO DETAIL B
NOT TO SCALE

RELEASED
2012-11-16
MP



DETAIL G

FOR $\emptyset 0.375$ HOLES ONLY
FOR HOLES THAT ARE CURRENTLY C'BORED ONLY
NOT TO SCALE

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\emptyset 0.375$ HOLES THAT ARE
CURRENTLY C'BORED:

1. INSERT D4720-1 SPACER, 16 PL (-1) OR 17 PL (-3)
OR 19 PL (-5) OR 23 PL (-7)
2. SWAGE TO $\emptyset 0.313 \times 0.75$ DP PER QSI 002
3. TRIM / GRIND FLUSH PER QSI 002

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION		AGAINST DEPARTMENT/PROCESS							
	Rework	☐	Skid-tube	☐	Cross tube	☐	Water Jet	☐	Engineering	☐
	Scrap	☐	Machining	☐	Small Fab	☐	Prod. Eng. Coord.	☐	Quality	☐
	Use-as-is	☐	Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
	Suspected Unapproved	☐	Large Fab	☐	Composite	☐	Supplier	☐		

Date : _____ Step #: _____ QTY Effective : _____ MRB (QSI042) Approval _____

Description Work Order Deviation	Disposition	Completed By
Large empty area for description and disposition		Lead hand / Supervisor Approval Verification
		QC / QA Coordinator Approval

Root Cause			FAULT CATEGORY		
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Change Record

PAGE 1 OF 1

Part Number: D206-642-341

Description: REPLACEMENT SKIDTUBE LH/RH[illegible]

